

U.S. Department of Energy  
Office of River Protection  
Contract Management Division  
Mr. Michael K. Barrett  
Contracting Officer  
P.O. Box 450, MSIN H6-60  
Richland, Washington 99352

CCN: 025176

Dear Mr. Barrett:

**CONTRACT NO. DE-AC27-01RV14136 – TRANSMITTED FOR INFORMATION -  
REVISION 1 TO AUTHORIZATION BASIS CHANGE NOTICE 24590-WTP-ABCN-  
ESH-01-011, INCORPORATE CHANGES TO REFLECT REVISION OF  
CONFIGURATION MANAGEMENT PLAN AND COMPLIANCE WITH ISO 10007**

References: 1) CCN 022761; Letter; A. R. Veerup, BNI, to M. K. Barrett, DOE; “Transmittal for Information: Incorporation of Integrated Safety Management Plan, Revision 0A Page Changes, Per Authorization Basis Change Notice 24590-WTP-ABCN-01-011, Revision 0, “Incorporate Changes to Reflect Revision of Configuration Management Plan and Compliance with ISO 10007;” dated October 1, 2001

Revision 0 of Authorization Basis Change Notice (ABCN) 24590-WTP-ABCN-ESH-01-011 (Reference 1) was reviewed by the U.S. Department of Energy (DOE) and comments were provided to Bechtel National, Inc. (BNI). The DOE had two major concerns: (1) BNI had not provided enough information to explain why changes made to the Integrated Safety Management Plan (ISMP) were not reductions in commitment, and (2) BNI had removed key words from the ISMP that were intended to require implementation of the Configuration Management (CM) Plan during the operations and deactivation phases of the project. Revision 1 to 24590-WTP-ABCN-ESH-01-011 remedies both of these concerns.

Explanatory language in this revision provides references to other parts of the ISMP and the Safety Requirements Document that contain commitments identical to the commitment language changed in Revision 0 of ABCN 24590-WTP-ABCN-ESH-01-011. In addition, this revision reinserts wording into Section 1.3.16 of the ISMP restoring the operations and deactivation phases of the project to the timeline of applicability of the project’s Configuration Management Plan. Thus, any real or perceived reductions in commitment are removed.

Attachments 1 and 2 to the revised ABCN are provided to assist the DOE in review of the original ISMP changes and the new explanatory discussions contained in Section III. I. 2 of the attached ABCN. ABCN Attachment 3 is provided to demonstrate the restoration of key wording

to Section 1.3.16 of the ISMP. Actual page changes to the ISMP will be transmitted to the DOE under separate cover.

A compact disk with this letter, and the revised ABCN with its attachments is provided for the DOE Office of Safety Regulation's information and use.

Should you have any questions concerning this correspondence, please contact Mr. Bill Spezialetti at 509-371-4654.

Very truly yours,

A. R. Veirup  
Prime Contract Manager

MAP/slr

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# Authorization Basis Change Notice

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ABCN Number 24590-WTP-ABCN-ESH-01-011 Revision 1

ABCN Title Incorporate Changes to Reflect Revision of Configuration Management Plan and Compliance with ISO 10007

## I. ABCN Review and Approval Signatures

### A. ABCN Preparation

Preparer: Mark Platt \_\_\_\_\_  
*Print/Type Name* *Signature* *Date*

Reviewer: Ken Fein \_\_\_\_\_  
*Print/Type Name* *Signature* *Date*

### B. Required Reviewers

Review Required? *For each person checked Yes, that signature block must be completed.*

<input checked="" type="checkbox"/>	ES&H Manager	<u>F. Beranek</u> _____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input checked="" type="checkbox"/>	QA Manager	<u>G. Shell</u> _____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input checked="" type="checkbox"/>	PSC Chair	<u>B. Poulson</u> _____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input type="checkbox"/>	Operations Manager	_____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input checked="" type="checkbox"/>	Engineering Manager	<u>F. Marsh</u> _____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input type="checkbox"/>	Pretreatment APM	_____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input type="checkbox"/>	LAW APM	_____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input type="checkbox"/>	HLW APM	_____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input type="checkbox"/>	BOF APM	_____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input type="checkbox"/>	Construction Manager	_____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input type="checkbox"/>	Business/Project Controls Manager	_____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input type="checkbox"/>	ALARA PSC Subcommittee Chair	_____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>
<input checked="" type="checkbox"/>	Systems Engineering Manager	<u>K. Auclair</u> _____ <i>Print/Type Name</i> <i>Signature</i> <i>Date</i>



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ABCN Title Incorporate Changes to Reflect Revision of Configuration Management Plan and Compliance with ISO 10007

## C. ABCN Approval

WTP Project Manager R. Naventi  
Print/Type Name Signature Date

## II. Description of the Proposed Change to the Authorization Basis

### D. Affected AB Documents:

Title	Document Number	Revision
Integrated Safety Management Plan	24590-WTP-ISMP-ESH-01-001	0

Decision to Deviate ☐ Yes ☒ No

If yes, DTD Number Deficiency Report Number

Initiating Document Number 24590-WTP-PL-MG-01-002 Revision 0

### E. Describe the proposed changes to the Authorization Basis Documents:

Revision 1 to this ABCN incorporates comments received from DOE upon their review of Revision 0 of this ABCN. Specifically, this revision:

1. Adds words back into the text of Section 1.3.16 of the ISMP to restore operations and deactivation phase work to the timeline of applicability of the RPP-WTP Project Configuration Management (CM) Program, and

2. Adds additional justification statements to Sections E, G, I, J, and K of this ABCN to more accurately describe why the changes made to the ISMP by the original ABCN do not constitute reductions in commitments made by BNL.

See Attachment 1 for detailed ISMP text changes from the original ABCN. Attachment 2 provides a summary of these changes along with their safety evaluations.

See new Attachment 3 for the addition of words into the current ISMP Section 1.3.16 to restore operations and deactivation phase work to the timeline of applicability of the CM Program.

ISMP Section 1.3.16 was rewritten to describe the revised WTP Project Configuration Management Plan. The revised plan complies with ISO 10007 and incorporates Bechtel processes.

Section 3.9.2 was changed to reflect editorial clarifications.

### F. List associated ABCNs and AB documents, if any:

None

### G. Explain why the change is needed:

The WTP Configuration Management (CM) Plan was revised to be consistent with the Standard ISO 10007:1995(E), and to incorporate guidance from the Bechtel BSII Procedure 3DP G04B 00005, Revision 0. Wording in the ISMP was updated to clarify the CM Plan's compliance with the commitments in the ISMP.

Revision 1 changes are needed to address DOE comments on the original ABCN. DOE objected to the removal of the operations and deactivation phase work that was part of the original ISMP text associated with CM applicability. BNL recognizes that CM control programs and processes deal with future project activities as well as present activities. Appropriate wording has been restored to ISMP Section 1.3.16. In addition, DOE objected to the BNL assertion that the original ABCN changes were not reductions in commitments made by BNL. This concern from DOE is understandable, since DOE reviewers were not referred by the ABCN Revision 0 to extenuating or alternative language in the ISMP that retains the commitments previously made. Specifically, BNL retains commitments to: 1) continue Project Safety Committee (PSC) review of changes to the AB and other important-to-safety design changes in accordance with ISMP Section 3.16.1.2; 2) continue to apply configuration management processes to administrative control procedures and programs in accordance with ISMP Section 3.3.3; and 3)



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G. Explain why the change is needed:

continue to require that "CM qualified" (suitably trained) personnel perform change reviews under the change control process in accordance with ISMP Sections 1.3.12, 3.15, and 4.2.2 and SRD Section 7.2.

H. List the implementation activities and the projected completion dates:

**Activity**

**Date**

Inform DOE that AB has been revised

30 days after project approval

Distribute revised pages

14 days after project approval

Provide updated electronic version of AB to DOE

30 days after project approval

Revise the following implementing documents:

**Documents**

**Describe extent of revisions**

**Date**

1 RPP-WTP Configuration Management Plan (24590-WTP-PL-MG-01-002)

Complete rewrite

Completed.  
Effective date:  
October 8, 2001

2 RPP-WTP Configuration Management Plan (24590-WTP-PL-MG-01-002)

Add wording approved as Revision 1 to this ABCN to include operations and deactivation phases to the timeline of applicability of the CM program.

30 days after Project approval

**Describe other activities:**

**Date**

1 N/A

### III. Evaluation of the Proposed Change

I. Is DOE prior approval required?

- 1 Does the revision involve the deletion or modification of a standard previously identified or established in the SRD?

Yes ☐ No ☒

Explain

The SRD currently requires ISO 10007 as the standard to be used for configuration management. The revised CM Plan meets this commitment. Sections 1.3.16 and 3.9.2 are not implementing standards for any SRD safety criteria.

Changes to ISMP Section 1.3.16 resulting from this Revision 1 of the ABCN do not change the SRD.

- 2 Does the revision result in the reduction in commitment currently described in the AB?

Yes ☐ No ☒

Explain

The SRD currently requires ISO 10007 as the standard to be used for configuration management. The revised CM Plan meets this commitment. Hence, there is no reduction in commitment.

Revision 1 changes are needed to address DOE comments on the original ABCN. DOE objected to the removal of the operations and deactivation phase work that was part of the original ISMP text associated with CM applicability. BNL recognizes that CM control programs and processes deal with future project activities as well as present activities. Appropriate wording has been restored to ISMP Section 1.3.16. This ensures no reduction in commitment on this issue.



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Revision 1

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DOE objected to the BNI assertion that the original ABCN changes were not reductions in commitments made by BNI. DOE was not referred by Revision 0 of the ABCN to extenuating or alternative language in the ISMP that retains the commitments previously made. Thus, to clarify these continuing commitments:

1) The Project Safety Committee (PSC) continues to review changes to the AB and other important-to-safety design changes in accordance with ISMP Section 3.16.1.2, Project Safety Committee. Therefore, the removal of Step 3) Approval in the original text of Section 1.3.16 is not a reduction in commitment.

2) Any changes to WTP facility, programs, or procedures continue to be "reviewed, prior to implementation, to ensure there is no degradation of safety or in the protection of the environment" in accordance with ISMP Section 3.3.3, Changes to the Authorization Basis. Therefore, the removal of the second and third paragraphs in the original ISMP section 1.3.16 is not a reduction in commitment.

3) The WTP continues to require that suitably trained (DOE's expression was "CM-qualified") personnel perform all work (including change reviews under the change control process) in accordance with the AB requirements for training including ISMP Sections 1.3.12, Training; 3.15, Training and Qualification; and 4.2.2, Training and Procedures; and SRD Section 7.2, Training and Procedures. Therefore, the removal of the sixth paragraph in the original ISMP section 1.3.16 is not a reduction in commitment.

- 3 Does the revision result in a reduction in the effectiveness of any procedure, program, plan, or management process described in the AB? Yes ☐ No ☒

Explain

The revised CM Plan is based on the guidance in ISO 10007. The revised CM Plan describes a configuration management process which effectively meets the commitments described in the AB. Therefore, there is no reduction in the effectiveness of the process.

As described in 2 above, other AB-required programs for management review, change control, and training continue to provide effective implementation of the configuration management processes on the WTP Project.

J. Complete the safety evaluation by describing how the revision to the AB:

- 1 will continue to comply with all applicable laws and regulations, conform to top-level safety standards, and provide adequate safety

DOE/RL-96-0006 requires a formal configuration management program. The SRD specifies ISO 10007 as the standard for the WTP configuration management program. The CM Plan implements ISO10007 and is applied to those activities as required by DOE/RL-96-0006. The guidance in the CM Plan supports implementation of processes and procedures which provide adequate safety.

As previously described, other AB-required programs for management review, change control, and training continue to provide effective implementation of the configuration management processes on the WTP Project. The continued implementation of the Quality Assurance Program and other SRD and ISMP requirements assures that there is compliance with applicable laws and regulations, conformance to top-level standards, and provision for adequate safety.

This revision to the original ABCN adds words back into the text of Section 1.3.16 of the ISMP to restore operations and deactivation phase work to the timeline of applicability of the RPP-WTP Project CM Program. These additional words comply with applicable laws and regulations, conform to top-level standards, and provide for adequate safety.



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- 2 will continue to conform to the original submittal requirements associated with the AB documents being revised

The previous CM Plan was also based on ISO 10007. The revised CM Plan clarifies the implementation of ISO10007 and incorporates guidance from the Bechtel BSII Procedure 3DP G04B 00005, Revision 0. Requirements, as stated in AB documents, were not changed. The revisions to the ISMP reflect these requirements and therefore, conform with the original submittal requirements.

[This revision to the original ABCN adds words back into the text of Section 1.3.16 of the ISMP to restore operations and deactivation phase work to the timeline of applicability of the RPP-WTP Project CM Program. These additional words continue to conform to the original submittal requirements associated with the AB documents being revised.](#)

- 3 will not result in inconsistencies with other commitments and descriptions contained in the AB or an authorization agreement

ISMP Section 1.3.16 describes the configuration management process as presented in the revised CM Plan. This discussion is not inconsistent with other AB documents.

[This revision to the original ABCN adds words back into the text of Section 1.3.16 of the ISMP to restore operations and deactivation phase work to the timeline of applicability of the RPP-WTP Project CM Program. These additional words do not result in inconsistencies with other commitments and descriptions contained in the AB or an authorization agreement.](#)

The editorial changes are clarifications which do not create inconsistencies with other AB documents.

## K. Justification of the Proposed Change

Provide a justification that demonstrates that the proposed change is safe

The proposed change to the ISMP Section 1.3.16 and the editorial change of Section 3.9.2 will not reduce safety at WTP. Commitments are retained to provide a configuration management process across the broad range of activities dealing with radiological, nuclear, and process safety. The CM Plan continues to be based on the ISO 10007 standard and is implemented through WTP procedures.

[This revision to the original ABCN adds words back into the text of Section 1.3.16 of the ISMP to restore operations and deactivation phase work to the timeline of applicability of the RPP-WTP Project CM Program. The implementation of CM into the operations and deactivation phases of the project is safe.](#)

## L. Certification of Continued SRD Adequacy

Based on evaluations from III.I.1 and III.J.1. If question III.I.1 is marked "yes, Project Manager certification is required. The Project Manager's signature certifies that the revised SRD continues to identify a set of standards that provide adequate safety, complies with WTP applicable laws and regulations, and conforms with top-level safety standards and principles. This certification is based on adherence to the DOE/RL-96-0004 standards identification process and successful completion of review and confirmation by the PSC.

WTP Project Manager: N/A

Print/Type Name Signature Date

## M. List of Attachments

- [Attachment 1: ISMP text changes from the Revision 0 of this ABCN.](#)
- [Attachment 2: Summary of Proposed Changes/Safety Evaluation \(from Revision 0 of the ABCN\).](#)
- [Attachment 3: Addition of words into the current ISMP Section 1.3.16 to restore operations and deactivation phase work to the timeline of applicability of the CM Program.](#)

## Acronyms

AB	Authorization Basis
AIChE	American Institute of Chemical Engineers
AIHA	American Industrial Hygiene Association
ALARA	As Low As Reasonably Achievable
BNI	Bechtel National, Inc.
CAMS	Corrective Action Management System
CAR	Construction Authorization Request
CFR	Code of Federal Regulations
Ci	Curie
CM	Configuration management
<a href="#">CM Plan</a>	<a href="#">RPP-WTP Configuration Management Plan</a>
DAR	Deactivation Authorization Request
DBE	Design Basis Earthquake OR Design Basis Event
DC&C	Design, Construction, and Commissioning
<a href="#">DCD</a>	<a href="#">Design Criteria Database</a>
DOE	U.S. Department of Energy
DOELAP	DOE Laboratory Accreditation Program
DOE-RL	U.S. Department of Energy Richland Operations Office
DOH	Washington State Department of Health
DWPF	Defense Waste Processing Facility
EAL	Emergency Action Level
Ecology	Washington State Department of Ecology
ECP	Employee Concerns Program
EDSP	Engineering Design Safety Principle
EIS	Environmental Impact Statement
EMP	Emergency Management Program
EMS	Emergency Management System
EP	Emergency Plan
EPA	U.S. Environmental Protection Agency
EPIP	Emergency Plan Implementing Procedure
ER	Environmental Report
ERPG	Emergency Response Planning Guide
ERPP	Environmental Radiation Protection Program
ES&H	Environment, Safety, and Health
FHA	Fire Hazard Analysis
FR	Federal Register
FSAR	Final Safety Analysis Report
HAL	Highly Active Liquids
HAR	Hazard Analysis Report
HAZOP	Hazard and Operability (analysis)
HEPA	High-Efficiency Particulate Air (filter)
HLW	High-Level Waste
HRC	Hazards Research Corporation
Hwy	Highway
ICBO	International Conference of Building Officials
IPT	Integrated Product/Process Team



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## 1.0 Project Safety Approach

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The conduct of operations program practices are major contributors to the safety of the public and workers. The practices are summarized in the ISAR Chapter 3.0, “Conduct of Operations”, and detailed guidance on the practices will be incorporated in the RPP-WTP procedures. The conduct of operations program includes shift routines and operational practices (e.g., operator inspection tours, log keeping, response to indications, and resetting protective devices), control area activities (e.g., communications and on-shift training), control of equipment status, lockouts and tagouts, independent verification, operations turnover, required reading, operations procedures, operator aid postings, equipment and piping labels, and incident investigation and reporting.

Another key element in the safety approach is the involvement of operations personnel throughout the design process and the involvement of the design personnel through turnover of the facility to the operations staff (see ISAR Section 3.10.1, “Testing Program Description”). This involvement allows operations personnel not only to provide input to the design process to develop a safe and operable facility, but also to become knowledgeable in the features and limitations of systems and components of the facility. Additionally, the development of facility control system simulators in advance of facility testing strengthens the ability and confidence in the performance of the systems and the operational interfaces. The simulators provide an important integration of the design and operating personnel during the testing in further support of a smooth transition to the operational phase of the project. This interface between the designers, the operators, and the simulators ensures the ability of the Project team to demonstrate operational readiness in advance of final testing activities of the facility.

### 1.3.16 Configuration Management

~~During the design, construction, operation, and deactivation of the Project, it is essential that the documentation of the technical baseline relating to SSCs, administrative controls, procedures, operation, training, and maintenance of the facility remain accurate and retrievable. To achieve this goal, the BNI team has established a Configuration Management (CM) program for nuclear, radiological, and process safety of the RPP-WTP. Vendors and subcontractors are also subject to the requirements to maintain configuration management, but it is the responsibility of the BNI to ensure the effective implementation of the vendor and subcontractor CM programs~~

~~As part of the CM program, any changes made to the facility, programs, or procedures are reviewed, prior to implementation, to ensure that there is no degradation in safety or in the protection of the environment. Another important aspect of the CM program is maintaining the completeness and the accuracy of the authorization basis. The content, control, and update requirements for the authorization basis documents are addressed in ISMP Section 3.3, “Authorization Basis”.~~

~~The configuration management program requires that a Design Change Application be developed to identify, communicate, record, and control proposed physical modification to the facility. The Design Change Application also initiates a review across relevant engineering design disciplines to determine the potential impact of the change to the RPP-WTP. A Design Change Application is required for both additions and deletions to the design and addresses the affect on safety.~~

Configuration management is one of the fundamental principles to achieve safety. Throughout the life cycle of the RPP-WTP, configuration management is applied to all activities to ensure that programmatic objectives related to radiological, nuclear, and process safety are achieved. Work is performed and controlled to pre-approved plans and procedures that delineate responsibilities. Records that define the requirements, design, verification, and acceptance of the RPP-WTP are retained to provide an accurate

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1.0 Project Safety Approach

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record of the design including approved changes to the design. Operating organizations define operational requirements and participate in design review, procedure preparation, training, and planning activities to become familiar with the features and limitations of components included in the design of the facility. Organizations that manage or interface with subcontractors or suppliers of items, activities, or services involving configured items flow down applicable requirements to ensure that the configuration management process as defined in the *RPP-WTP Configuration Management Plan (CM Plan)* (BNI 2001f) are properly implemented.

The WTP Configuration Management Program provides direction to identify and document the physical and functional characteristics of facility structure, systems, components, and computer software applications. Its application to design, construction, and commissioning activities ensures proposed changes to these characteristics are properly developed, approved, implemented, verified, and incorporated into facility design documentation. The CM Plan is based upon ISO 10007:1995(E), *Quality Management - Guidelines for Configuration Management*.

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## 1.0 Project Safety Approach

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~~The need for changes to engineered features or administrative controls can arise from commissioning, human factors reviews, corrective actions identified by the incident investigation process internal oversight process and the performance of assessments, lessons learned program, employee feedback program, performance of emergency drills and exercises, need to improve the waste process operation, and continuous review of public and worker safety. Any facility organization may identify the need for a change. For example, ES&H would most likely identify a change necessary to implement a new safety or environmental protection regulation.~~

~~The CM program follows four basic steps as follows:~~

- ~~1) Identification. A request for a potential change is initiated to the technology of the process, the facility design or operation, or operating procedures.~~
- ~~2) Evaluation. An evaluation is performed to establish that the proposed change should be implemented. The scope of the evaluation process is determined by the impact on safety and the impact on the facility costs and schedule. Factors to be considered in this evaluation include compliance of the change with regulations, authorization basis, applicable codes and standards, and risk significance. Configuration management, quality assurance, onsite review committee approvals, and procedures play an important role in ensuring that the level of safety for the public and workers is maintained. Most proposed changes are evaluated by the Engineering Organization. This evaluation by the Engineering Organization ensures that the authorization basis and design requirements are consistent and not compromised; that safety and mission impacting requirements are identified; that acceptance testing, operational, and maintenance specifications are developed, and that affected or interfacing SSCs and configuration management documentation, including the FSAR and TSRs, are modified or reconciled.~~
- ~~3) Approval. The approval process is commensurate with the process applied to the original configuration, so that the change is approved by the same (or equivalent level) organization that approved the original configuration. This step includes obtaining regulatory authorization, if required, prior to implementation of the change. During design and construction, the Project Manager approves changes to Important to Safety features. The Facility Manager approves these changes during the operation phase. These approvals are predicated on a recommendation for approval by the Project Safety Committee (PSC).~~
- ~~4) Implementation. Approved changes are implemented in accordance with established programs and procedures. The CM program requires that, following completion of physical change to the facility SSCs associated documentation is modified in accordance with procedural requirements to reflect the changes before the implementation is considered complete.~~

~~Personnel responsible for performing each of the above listed aspects of configuration management meet minimum qualification requirements for the particular position being filled. For example, ES&H personnel meet the minimum requirements for environmental or safety duties. In addition, personnel involved in the change management process receive training specific to that program. The specific qualification requirements are established in Part B. The SRD provides the training and qualification standards for RPP-WTP personnel.~~

~~The responsibilities for the identification, evaluation, and implementation of changes to the RPP-WTP are identified in Table 1-3.~~

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## 1.0 Project Safety Approach

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The project formally identifies and establishes configuration baselines, systematically evaluates and dispositions changes, and records the implementation of approved changes. The Configuration Management Program establishes the policies, guidelines, and responsibilities serving to ensure that:

- The engineered configuration of the project is controlled to ensure it meets design, performance, and acceptance requirements.
- Approved configuration changes are assessed for their impact on performance and safety.
- The configuration status of the technical baseline is maintained.

Configuration management is implemented through project plans and procedures that incorporate requirements from the CM Plan and other top-level requirements documents. Records including Authorization Basis documents; engineering and other source requirements documents; design documents; identification of structures, systems, and components; and links between the design documents and the requirements documents are maintained in an electronic data management system managed by Project Document Control.

Effective implementation of configuration management and supporting processes is assessed through management self-assessments in accordance with approved project procedures. Additionally, formal audits performed by Quality Assurance to their normal auditing practices verify compliance with approved project procedures.

### **1.3.16.1 Configuration Management Approach**

The RPP-WTP configuration management program implements a process consisting of four basic steps, as follows:

- 1) **Identification and documentation.** The activities comprising selection of configured items, documenting their physical and functional characteristics, and allocating unique identification characters and numbers to the configured items and their configuration documents.
- 2) **Change control.** The activities comprising the control of changes to a configured item after formal issue of its configuration documents.
- 3) **Status tracking and reporting.** Formal recording and reporting of configuration documents, and the approved changes to those documents.
- 4) **Configuration audit.** Examination of review, inspection, and test records to determine that a configured item conforms to its configuration documents.

Project plans and procedures fully implement the configuration management process by delineating responsibilities for organizations that manage activities and provide services related to configuration management. Implementing procedures are cited in the CM Plan (BNI 2001f).

**River Protection Project – Waste Treatment Plant**

**Integrated Safety Management Plan**

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## 1.0 Project Safety Approach

<b>Table 1-3</b>	<b>Responsibilities for Changes to the RPP-WTP</b>		
<b>Change</b>	<b>During Design and Construction</b>	<b>During Operation</b>	
Civil/structural design or a support system (e.g., mechanical and electrical systems)	Engineering	Engineering	Engineering
Waste processing	Engineering	Operations	
Facility operation, not related to startup testing		Operations	Operations
Commissioning program	Commissioning	Commissioning	
Nuclear, radiological, and process safety	Radiological, Nuclear, and Process Safety	Radiological, Nuclear, and Process Safety	
Environmental	Environmental	Environmental	

The types of changes will differ during the phases of the Project. Initially, the majority of the changes will involve design changes to the facility. During operations, it is expected that the majority of the changes will involve facility operation or modifications rather than design. The CM program ensures that the Project establishes and maintains consistency between the requirements, the physical configuration, documentation, and facility operation throughout the design, construction, operation, and deactivation of the project. The scope and the controls of the CM program are discussed in further detail in ISAR Chapter 3.1, "Configuration Management". The CM and Management of Change program is required by 29 CFR 1910.119 "Process Safety Management of Highly Hazardous Chemicals" is addressed in this ISMP section and in ISMP Section 5.3, "Configuration Management".

### 1.3.16.2 Configured Item Identification and Documentation

Configured items are selected and documented taking into consideration at what level functional and physical characteristics can be best managed to achieve the overall WTP Project performance objectives related to radiological, nuclear, and process safety. Items identified for configuration management include structures, systems, and components; plant installed software; project interfaces; and Authorization Basis documents.

### 1.3.16.3 Change Control

Design configuration is controlled in accordance with approved project procedures to maintain an accurate record of the design. Changes are documented to describe the change, the reason for the change, and to identify the configured item and related documents to be changed.

Change control is a formal process comprised of change documentation, evaluation, approval, and implementation.

#### 1.3.16.3.1 Documentation

Changes must be documented except for insignificant changes, i.e., those with no affect on safety, environmental protection, the Authorization Basis, scope, schedule, or cost. When the change control process uses separate change documents, the change documents shall have unique identification numbers for status tracking and convenient to establish links to affected or related documents in the electronic data management system.

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1.0 Project Safety Approach

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**1.3.16.3.2 Evaluation**

Engineering evaluates proposed changes to identify interface or discipline subject matter impacts and to establish that a proposed change should be implemented. Factors to be considered in the evaluation include compliance of the change with regulations, the Authorization Basis, applicable codes and standards, and safety and environmental significance. Environmental, Safety, and Health monitors the impact evaluation process.

**1.3.16.3.3 Approval**

The approval process for changes is commensurate, in detail and approval authorities, with the approval process for the original configuration. This may include obtaining authorization from the PSC, customer, or regulators prior to implementing the change.

**1.3.16.3.4 Implementation**

Approved changes are implemented in accordance with WTP Project procedures identified in the CM Plan specific to the various configured item types encountered in design, procurement, construction, and commissioning activities.

### **1.3.16.4 Status Tracking and Reporting**

Status tracking and reporting consists of recording and reporting information required to manage and administer the configuration management process and related activities. Information is recorded, links to related documents entered, and sorted for reporting in the electronic data management system managed by Project Document Control.

### **1.3.16.5 Configuration Audits**

Configuration audit is the examination of items and documents to determine whether a configured items conforms to its configuration documents. Configuration audit typically consists of functional and physical confirmation.

Functional confirmation is accomplished by identifying the individual functional and performance requirements of a configured item and confirming through review, inspection, and test records that the requirements are achieved.

Physical confirmation is accomplished by examining the physical or as-built and tested configured item for compliance to its configuration documents. Together, the functional confirmation and the physical confirmation demonstrate that the configured item, as defined by its configuration documents, conforms to the physical and functional requirements.

### **1.3.16.6 Functions and Requirements Management**

The Contract, *Basis of Design*, *Functional Specification*, *Operational Requirements Document*, and Authorization Basis design requirements are compiled in an Access © database, designated the Design Criteria Database (DCD). The database has full text and keyword search capabilities. This database is used by design and safety personnel to identify applicable safety functions and requirements for use in the WTP design. The database is updated by procedure each time a source document is revised.

The configuration management organization maintains the *Basis of Design* and DCD to integrate design requirements, safety standards, and operational requirements.

### **1.3.16.7 Training**

The configuration management organization develops, maintains, and provides training on the configuration management program for the project. This training includes a description of the program, reasons why the program is used, the elements of configuration management, and how the program is implemented on the project. This training is provided to employees as part of the Safety and Quality Design Required Training.

### **1.3.17 Incident Investigations**

The importance of the identification and correction of nonconforming conditions as part of a safety approach for the Project is recognized. To ensure that significant incidents that could adversely affect the quality, security, environment, operations, or health and safety of public and workers are brought to the attention of management, the project regulator, and the DOE Occurrence Reporting and Processing System, the ISMP requires incident investigation and reporting. The process safety management regulations found in 29 CFR 1910.119(m)(1) require that employers investigate and report incidents that result in, or could have resulted in, a catastrophic release of a hazardous chemical in the workplace. The incident investigations for the Project are expanded in scope to include accidental radionuclide releases and the construction and startup testing phases of the project. Also, reporting of events of less severity than those required of process safety management are included in the program. Incidents to be reported to the regulator include, for example, events or conditions at the facility that resulted in degradation of the principal safety barriers or in a condition beyond the design basis or emergency procedures. The incident investigation process requires that serious events or conditions are addressed and resolved and that the findings of the investigation are resolved.

The investigations are conducted in accordance with the Safety Criteria in SRD Volume II, Section 7.7, “Reporting and Incident Investigation”. Additional detail on the implementing procedures are contained in ISAR Section 3.7, “Incident Investigations”.



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### 3.0 Conformance to Top-Level Safety Standards and Principles

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Radiation protection features such as facility zoning, minimum shielding requirements, and access control features will be documented on applicable facility layout drawings and other design documents. These documents are reviewed to ensure that the requirements are met. Details, such as penetrations are analyzed to ensure that potential streaming paths are identified and properly shielded.

#### 3.9.1.3 Radiation Monitoring

Fixed area radiation monitoring is provided in areas where the area exposure rates may change suddenly. These sudden changes may be a result of process operation or maintenance activities. Continuous air monitors are provided in accessible locations where concentrations of airborne radionuclides may vary. Air sampling capability is also provided. Effluent sampling is provided as necessary to demonstrate compliance with regulations. The radiation monitoring locations will be shown on drawings developed during detailed design.

#### 3.9.2 ALARA Design

Project procedures are established to implement an ALARA program. These procedures include guidance on ALARA design considerations appropriate to the facility and delineate the ALARA design responsibilities of individuals on the project. The ALARA guidance is derived from federal and commercial nuclear operating experience as well as from industry standards such as NRC Regulatory Guide 8.8, *Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low as is Reasonably Achievable* (NRC 1978) and DOE G 441.1-2, *Occupational ALARA Program Guide*. The ALARA guidance addresses considerations for reducing exposures within the RPP-WTP from operations and from final decommissioning activities. It also addresses considerations for reducing effluents from the RPP-WTP.

ALARA design criteria and ALARA design considerations are provided to project staff in controlled documents. These criteria and considerations are arranged by topic area (for example, General Criteria, Dose Criteria, Environmental Criteria, Facility Arrangement Considerations, Shielding Considerations, System Design Considerations, etc.). Design engineers are responsible for implementing and documenting ALARA design criteria and ALARA design considerations in their work. Supervisors are responsible for ensuring that individuals in the group are trained in ALARA criteria and considerations, and for reviewing designs against those criteria and consideration. The ~~Configuration Management~~[WTP ALARA](#) program also requires an ALARA review of proposed changes to the facility.

Periodic interdisciplinary project ALARA reviews are conducted to ensure that ALARA concepts are being integrated into the design and to discuss implementation of the ALARA design goal and the rationale for exceptions from specific ALARA design considerations.

In addition, collective exposure estimates assess projected exposures to provide insight into the sources of exposure and indicate areas that may require additional attention. The estimates are compared to those from similar operating facilities.

Radioactive systems at the RPP-WTP are designed to minimize the potential for leaks of radioactive material. Radioactive leaks are collected and segregated from non-radioactive waste streams. To the extent possible, radioactive leaks are returned to the process stream.

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13.0 References

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<p style="text-align: center;"><b>River Protection Project – Waste Treatment Plant</b> <b>Integrated Safety Management Plan</b> <b>24590-WTP-ABCN-ESH-01-011, Rev 1, Attachment 1, Page 12 of 12</b></p>
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## Attachment 2

### Summary of Proposed Changes / Safety Evaluation

<b>ISMP Section No./ Item [Rev. 6 Page No.(s)]</b>	<b>Summary of Proposed Change</b>	<b>Basis/Rationale for Proposed Revision</b>	<b>Impact Exceeds AB (i.e., DOE OSR approval required)?</b>	<b>Basis for AB impact assessment/ Safety Evaluation of Revision</b>
Section 1.3.16, Configuration Management [1-22]	Replace with description of revised Configuration Management Plan	Revised Configuration Management Plan, written to ISO 10007 Standard, reflects BNI processes.	NO	Clarification update: Revised Configuration Management Plan meets ISO 10007 Standard. First principle review demonstrates ISMP commitments are not changed.
3.9.2, ALARA Design [3-22]	Replace “Configuration Management Program” with “WTP ALARA Program”	Correct source document for this requirement	NO	Clarification update: No impact on prior ISMP commitments or safety basis for the WTP project.

<p style="text-align: center;"><b>River Protection Project – Waste Treatment Plant</b> <b>Integrated Safety Management Plan</b> <b>24590-WTP-ABCN-ESH-01-011, Rev 1, Attachment 3, Page 1 of 2</b></p>
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## 1.0 Project Safety Approach

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The conduct of operations program practices are major contributors to the safety of the public and workers. The practices are summarized in the ISAR Chapter 3.0, “Conduct of Operations”, and detailed guidance on the practices will be incorporated in the RPP-WTP procedures. The conduct of operations program includes shift routines and operational practices (e.g., operator inspection tours, log keeping, response to indications, and resetting protective devices), control area activities (e.g., communications and on-shift training), control of equipment status, lockouts and tagouts, independent verification, operations turnover, required reading, operations procedures, operator aid postings, equipment and piping labels, and incident investigation and reporting.

Another key element in the safety approach is the involvement of operations personnel throughout the design process and the involvement of the design personnel through turnover of the facility to the operations staff (see ISAR Section 3.10.1, “Testing Program Description”). This involvement allows operations personnel not only to provide input to the design process to develop a safe and operable facility, but also to become knowledgeable in the features and limitations of systems and components of the facility. Additionally, the development of facility control system simulators in advance of facility testing strengthens the ability and confidence in the performance of the systems and the operational interfaces. The simulators provide an important integration of the design and operating personnel during the testing in further support of a smooth transition to the operational phase of the project. This interface between the designers, the operators, and the simulators ensures the ability of the Project team to demonstrate operational readiness in advance of final testing activities of the facility.

### 1.3.16 Configuration Management

Configuration management is one of the fundamental principles to achieve safety. Throughout the life cycle of the RPP-WTP, configuration management is applied to all activities to ensure that programmatic objectives related to radiological, nuclear, and process safety are achieved. Work is performed and controlled to pre-approved plans and procedures that delineate responsibilities. Records that define the requirements, design, verification, and acceptance of the RPP-WTP are retained to provide an accurate record of the design including approved changes to the design. Operating organizations define operational requirements and participate in design review, procedure preparation, training, and planning activities to become familiar with the features and limitations of components included in the design of the facility. Organizations that manage or interface with subcontractors or suppliers of items, activities, or services involving configured items flow down applicable requirements to ensure that the configuration management process as defined in the *RPP-WTP Configuration Management Plan* (CM Plan) (BNI 2001f) are properly implemented.

The WTP Configuration Management Program provides direction to identify and document the physical and functional characteristics of facility structure, systems, components, and computer software applications. Its application to design, construction, ~~and~~ commissioning, operations, and deactivation activities ensures proposed changes to these characteristics are properly developed, approved, implemented, verified, and incorporated into facility design documentation. The CM Plan is based upon ISO 10007:1995(E), *Quality Management - Guidelines for Configuration Management*.

### **1.3.16.2 Configured Item Identification and Documentation**

Configured items are selected and documented taking into consideration at what level functional and physical characteristics can be best managed to achieve the overall WTP Project performance objectives related to radiological, nuclear, and process safety. Items identified for configuration management include structures, systems, and components; plant installed software; project interfaces; and Authorization Basis documents.

### **1.3.16.3 Change Control**

Design configuration is controlled in accordance with approved project procedures to maintain an accurate record of the design. Changes are documented to describe the change, the reason for the change, and to identify the configured item and related documents to be changed.

Change control is a formal process comprised of change documentation, evaluation, approval, and implementation.

#### **1.3.16.3.1 Documentation**

Changes must be documented except for insignificant changes, i.e., those with no affect on safety, environmental protection, the Authorization Basis, scope, schedule, or cost. When the change control process uses separate change documents, the change documents shall have unique identification numbers for status tracking and convenient to establish links to affected or related documents in the electronic data management system.

#### **1.3.16.3.2 Evaluation**

Engineering evaluates proposed changes to identify interface or discipline subject matter impacts and to establish that a proposed change should be implemented. Factors to be considered in the evaluation include compliance of the change with regulations, the Authorization Basis, applicable codes and standards, and safety and environmental significance. Environmental, Safety, and Health monitors the impact evaluation process.

#### **1.3.16.3.3 Approval**

The approval process for changes is commensurate, in detail and approval authorities, with the approval process for the original configuration. This may include obtaining authorization from the PSC, customer, or regulators prior to implementing the change.

#### **1.3.16.3.4 Implementation**

Approved changes are implemented in accordance with WTP Project procedures identified in the CM Plan specific to the various configured item types encountered in design, procurement, construction, ~~and~~ commissioning, [operations, and deactivation](#) activities.